REMARKS

Rejection of the claims under 35 USC § 102

Claims 11, 13, 14, 16, and 17 have been rejected under 35 U.S. C. 102(b) as being anticipated by Desjardins et al. (J Pharm Exp Ther 1996). Applicants respectfully disagree.

The Action notes that the ribozymes of Desjardins et al. bound to serum albumin and that this complex had a net negative charge. However, Desjardins et al. did not inject a RNA-ribozyme complex as is required by the instant claim. Also, albumin is negatively charged (see for example Serum Albumin entry in Wikipedia: http://en.wikipedia.org/wiki/Serum_albumin). Therefore, the formation of a ribozyme-albumin complex, even if formed prior to injection, would not possess a zeta potential that is less negative than the zeta potential of the double strand RNA oligonucleotide alone, as is also required by the claim.

The Action also states that a pyrogen-free isotonic saline ribozyme solution is an amphipathic solution. Because the instant claim recites that the RNA must be mixed with a compound such as an amphipathic compound, in order for Desjardins et al. to anticipate the claim, pyrogen-free isotonic saline must contain an amphipathic compound. The phrase pyrogen-free merely indicates what is not present and therefore can not be interpreted to mean the presence of an amphipathic compound. Isotonic is a biological term denoting a solution in which body cells can be bathed without a net flow of water across the semipermeable cell membrane (i.e., having the same concentration of solutes as the blood; Biology-online dictionary) and does not provide any information regarding the presence or absence of an amphipahtic compound. That leaves the term saline, which is sodium and chloride. Sodium (Na^+) and chloride (Cl^-) are ions and are not amphipathic because they do not contain any hydrophobic segment.

The Action also states that "plasma" is interpreted to mean extravascular space. Applicants note that plasma is "the fluid part of blood, lymph, or milk as distinguished from suspended material; especially : blood plasma (Merriam Webster Dictionary)" and is therefore not extravascular space.

Applicants request reconsideration of the §102 rejection.

Rejection of the claims under 35 USC § 103

Claims 11 and 13-18 have been rejected under 35 U.S. C. 103 as being unpatentable over Zimmer (Methods, 1999) in view of Vaish et al (NAR 1998) and Zhang et al (Human Gene Therapy 1999). Applicants respectfully disagree. The Action states that the volume used by Zimmer et al. inherently causes increased permeability in the target tissue. Zimmer et al. teach an injection of 5 nmol/5 ml/kg. Since an average mouse weighs about 25 grams (0.025 kg) this volume equates to 0.125 ml (5 ml/kg × 0.025 kg = 0.125 ml; i.e. 125 μl) per mouse. This injection volume is insufficient to cause vessel permeability in the liver following injection into the tail vein as evidenced by the accompanying Declaration under 37 C.F.R. 1.132. See also page 7 lines 2-5 of the Specification.

The Action further states that "pressure against the vessel walls would inherently be increase because the needle used to delivery to oligonucleotide complexes with the positive and negative charges polymers is external to the tail vein." However, the claim clearly recites that it is the volume of the injected solution and not the needle which increases permeability in the target tissue.

Applicants request reconsideration of the §103 rejection.

The Examiner's objections and rejections are now believed to be overcome by this response to the Office Action. In view of Applicants' amendment and arguments, it is submitted that claims 11 and 13-18 should be allowable.

Respectfully submitted,

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I hereby certify that this correspondence is being transmitted to the USPTO on this date: July 25, 2007 .

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